

IN THE CLAIMS:

1-19. (Cancelled)

20. (Previously Presented) An evaporator comprising:

a first plate having a first configuration including a first peripheral lip extending along the periphery of said first plate, a first center portion recessed with respect to said lip and having first and second ends, and a width, a first return trough recessed with respect to said center portion and having a first return aperture positioned at a bottom of said first return trough, first and second inlet troughs adjacent said second end and recessed with respect to said center portion with inlet apertures disposed in each inlet trough, a first outlet trough disposed between said first and second inlet troughs and recessed with respect to said center portion with an outlet aperture disposed in said outlet trough, and a first mound projecting from said center portion and surrounding said outlet trough;

a second plate having a second configuration including a second peripheral lip extending along the periphery of said second plate, a second center portion recessed with respect to said second lip and having third and fourth ends, and a second width, a second return trough recessed with respect to said second center portion and having a second return aperture positioned at a bottom of said second return trough, third and fourth inlet troughs adjacent said fourth end and recessed with respect to said second center portion with inlet apertures disposed in each inlet trough, a second outlet trough disposed between said third and fourth inlet troughs and recessed with respect to said second center portion with a second outlet aperture disposed in said second outlet trough, a second mound projecting from said second center portion and surrounding said third inlet trough, and a third mound projecting from said second center portion and surrounding said fourth inlet trough, wherein said first and second configurations are differently shaped from one another;

a pair of first plates disposed in a back to back mirrored relationship to one another with said peripheral lips thereof engaging one another and said first mounds thereof engaging one another, whereby said return apertures, said inlet apertures and said outlet apertures thereof are aligned;

a pair of second plates disposed in a back to back mirrored relationship to one another with said peripheral lips thereof engaging one another and said second and third

mounds thereof engaging one another, whereby said return apertures, said inlet apertures and said outlet apertures thereof are aligned; and

said pairs being alternately stacked with respect to one another with said first and second return troughs engaging one another whereby said return apertures are aligned to define a return tank, said inlet troughs engaging one another whereby said inlet apertures are aligned to define a first and second inlet manifolds, and said outlet troughs engaging one another whereby said outlet apertures are aligned to define an outlet manifold, and whereby said center portions of said pair of first plates are spaced apart to define a fluid pathway communicating with the return tank and the first and second inlet manifolds and said center portions of said pair of second plates are spaced apart to define a fluid pathway communicating with the return tank and the outlet manifold.

Please add the following new claims.

21. (New) An evaporator for evaporating a fluid and cooling air flowing through said evaporator, said evaporator comprising:

two first plates, each having a first configuration, engaged in a back to back mirrored relationship to one another to form a first pair with a first cavity defined between said two first plates;

two second plates, each having a second configuration, engaged in a back to back mirrored relationship to one another to form a second pair with a second cavity defined between said two second plates;

wherein said first pair of plates and said second pair of plates are stacked together;

an inlet manifold defined in said first and second pairs of plates for receiving the fluid to be evaporated, said inlet manifold in communication with only said first cavity relative to said first and second cavities for directing the fluid through said evaporator in a first direction;

a return tank defined in said first and second pairs of plates opposite said inlet manifold, said return tank in communication with said first cavity for receiving the fluid from said first cavity and in communication with said second cavity for directing the fluid through said evaporator in a second direction opposite said first direction; and

an outlet manifold defined in said first and second pairs of plates opposite said return tank and adjacent said inlet manifold, said outlet manifold in communication with only said second cavity relative to said first and second cavities for evacuating the fluid from said second cavity out of said evaporator.

22. (New) The evaporator of claim 21 further comprising a second inlet manifold defined in said first and second pairs of plates adjacent said inlet manifold on an opposite side of said outlet manifold for receiving the fluid to be evaporated, said second inlet manifold in communication with only said first cavity relative to said first and second cavities for directing the fluid through said evaporator in said first direction.

23. (New) The evaporator of claim 21 wherein each of said two first plates includes a first peripheral lip extending along the periphery of said first plate and a first center portion recessed with respect to said peripheral lip, said peripheral lips of said two first plates engage one another, whereby said center portions are spaced apart from one another defining said first cavity therebetween.

24. (New) The evaporator of claim 23 wherein each of said two first plates includes a first inlet aperture defining said inlet manifold, and wherein each of said two first plates includes a first outlet aperture defining said outlet manifold.

25. (New) The evaporator of claim 24 wherein each of said two first plates includes a first return aperture defining said return tank.

26. (New) The evaporator of claim 25 wherein each of said two first plates includes at least one mound projecting from said first center portion and surrounding one of said first inlet aperture and said first outlet aperture, said mounds of said two first plates of said first pair engage one another, whereby said one aperture surrounded by said mound is isolated from said first cavity.

27. (New) The evaporator of claim 25 wherein each of said two second plates includes a second peripheral lip extending along the periphery of said second plate and a second center portion recessed with respect to said second peripheral lip, said peripheral lips of said two second plates engaged with one another, whereby said second central portions are spaced apart from one another defining a second cavity therebetween, each of said two second plates also including a second return aperture adjacent said second center portion, said second return apertures communicating with said second cavity, each of said two second plates also including a

second inlet aperture and a second outlet aperture disposed on an opposite side of said second center portion relative to said second return aperture.

28. (New) The evaporator of claim 27 wherein:

each of said two first plates includes a first return trough recessed with respect to said first center portion, said first return aperture disposed at a bottom of said first return trough; and

each of said two second plates includes a second return trough recessed with respect to said second center portion, said second return aperture disposed at a bottom of said second return trough, said bottom of said first return trough engaging said bottom of said second return trough between adjacent pairs of plates, whereby said return apertures of the plates are aligned to define a return tank in communication with the first and second cavities.

29. (New) The evaporator of claim 28 wherein:

each of said two first plates includes a first mound projecting from said first center portion and surrounding said first outlet aperture, said first mounds of said two first plates engaged with one another, whereby said first outlet aperture is isolated from said first cavity; and

each of said two second plates includes a second mound projecting from said second center portion and surrounding said second inlet aperture, said second mounds of said two second plates engaged with one another, whereby said second inlet aperture is isolated from said second cavity.

30. (New) The evaporator of claim 29 wherein:

each of said two first plates includes a first inlet trough recessed with respect to said first center portion, said first inlet aperture disposed at a bottom of said first inlet trough; and

each of said two second plates includes a second inlet trough recessed with respect to said second center portion, said second inlet aperture disposed at a bottom of said second inlet trough, said bottom of said first inlet trough engaging said bottom of said second inlet trough between adjacent pairs of plates, whereby said inlet apertures of the plates are

aligned to define an inlet manifold in communication with only the first cavity relative to the first and second cavities.

31. (New) The evaporator of claim 29 wherein:

each of said two first plates includes a first outlet trough recessed with respect to said first center portion, said first outlet aperture disposed at a bottom of said first outlet trough; and

each of said two second plates includes a second outlet trough recessed with respect to said second center portion, said second outlet aperture disposed at a bottom of said second outlet trough, said bottom of said first outlet trough engaging said bottom of said second outlet trough between adjacent pairs of plates, whereby said outlet apertures of the plates are aligned to define a outlet manifold in communication with only the second cavity relative to the first and second cavities.

32. (New) The evaporator of claim 21 further comprising a third pair of plates formed with said two first plates engaged in a back to back mirrored relationship to one another, said third pair stacked with said first and second pairs such that said second pair is disposed between said first and third pairs.

33. (New) The evaporator of claim 21 wherein said first and second configurations are differently shaped from one another.